Artificial Intelligence: Another Challenge for the Architectural Profession

On True Creativity, Generating by Patterns, and Parametric Evaluation and Optimization

Michal Sourek

Faculty of the Built Environment, Institute of Architecture
Czech Technical University in Prague
Czech Republic

https://zenodo.org/record/7980714

E-mail: michal.sourek@fsv.cvut.cz

Abstract:

Architecture, the built environment, and real estate have been joining the trend of artificial intelligence invading our lives and professions only belatedly. The record of some of the most recent "famous achievements" in the field set straight, the paper challenges the state-of-the-art concerning these fields, debunks the idea of (truly) creative potential of the technology, and puts forward a sketch roadmap to a realistic - and significant - deployment of artificial intelligence in architecture and the creation of the built environment. The attention turns to open-source patterns-platforms, generative patterns processing, generative pre-design, parametric evaluation and optimization. Finally, a chance for these disciplines to come back from the sidelines to the position they need to provide society with what it lacks in terms of quality of life, sustainability, and comprehensive resilience renders. Among other new technologies, artificial intelligence can play an outstanding role in this regard, if understood and developed adequately by architects and IT developers hand closely in hand.

Keywords:

Artificial intelligence, Machine learning, Generative pattern, Open-source platforms of patterns, Generative pre-design, Parametric evaluation, Parametric review, Parametric optimization